Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
January 2018
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 30717
Name: Downing-Nelson Oil Co Inc
Address 1: PO BOX 1019
Address 2:
City: HAYS State: KS Zip: 67601 + 1019
Contact Person: Alan Downing
Phone: (785) 621-2610
CONTRACTOR: License # 5929
Name: Duke Drilling Co., Inc.
Wellsite Geologist: Marc Downing
Purchaser: CHS McPherson Refinery

Designate Type of Completion:
☑ New Well ☐ Re-Entry ☐ Workover
☑ Oil ☐ WSW ☐ SWD
☐ Gas ☐ DH ☐ EOR
☐ OG ☐ GSW
☐ CM *(Coal Bed Methane)*
☐ Cathodic ☐ Other *(Core, Expl., etc.)*:

If Workover/Re-entry: Old Well Info as follows:
Operator:
Well Name:
Original Comp. Date: Original Total Depth:
☐ Deepening ☐ Re-perf. ☐ Conv. to EOR ☐ Conv. to SWD
☐ Plug Back ☐ Liner ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ EOR Permit #:
☐ GSW Permit #:

05/24/2022	06/01/2022	06/30/2022
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No.: 15-153-21290-00-00
Spot Description:
NW - SE - SW - NW Sec. 17 Twp. 5 S. R. 36 ☐ East ☑ West
2100 Feet from ☑ North / ☐ South Line of Section
900 Feet from ☐ East / ☑ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☑ NW ☐ SE ☐ SW
GPS Location: Lat: *(e.g. xx.xxxxx)*, Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Rawlins
Lease Name: CHARLENE C Well #: 1-17
Field Name: Charlene
Producing Formation: Cherokee Lime
Elevation: Ground: 3347 Kelly Bushing: 3358
Total Vertical Depth: 4954 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 483 Feet
Multiple Stage Cementing Collar Used? ☐ Yes ☑ No
If yes, show depth set: Feet
If Alternate II completion, cement circulated from:
feet depth to: w/ sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 8000 ppm Fluid volume: 400 bbls
Dewatering method used: Evaporated

Location of fluid disposal if hauled offsite:

Operator Name:
Lease Name: License #:
Quarter Sec. Twp. S. R. ☐ East ☐ West
County: Permit #:

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

☐ **Confidentiality Requested**
Date: 07/12/2022
☐ **Confidential Release Date:** 07/11/2024
☑ **Wireline Log Received** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** David Befort **Date:** 07/13/2022

Operator Name: Downing-Nelson Oil Co Inc   Lease Name: CHARLENE C   Well #: 1-17

Sec. 17 Twp. 5 S. R. 36 ☐ East ☑ West   County: Rawlins

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☐ Yes ☑ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

Geologist Report / Mud Logs ☑ Yes ☐ No

List All E. Logs Run:
Attached

☑ Log   Formation (Top), Depth and Datum   ☐ Sample

Name	Top	Datum
Attached	Attached	Attached

CASING RECORD ☑ New ☐ Used
Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12.25	8.625	24	483	H-325	350	-
Production	7.875	5.5	14	4955	H-Long	200	-

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ Plug Off Zone	-			
	-			

1. Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☑ No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? ☐ Yes ☐ No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/ Injection: 07/05/2022

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: ☐ Vented ☐ Sold ☐ Used on Lease *(If vented, Submit ACO-18.)*

METHOD OF COMPLETION: ☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*

PRODUCTION INTERVAL:

Top	Bottom
4737	4741
4699	4709

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*
4	4737	4741	CIBP Cast Iron Bridge Plug	4745	500 gallons 7.5% INS with 5% C & D 600 solvent
4	4699	4709			500 gallons 15% Mud Acid
					750 gallons 15% NE 500# rock salt, 750 gallons 15% NE

TUBING RECORD:	Size:	Set At:	Packer At:
	2.375	4740	

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	CHARLENE C 1-17
Doc ID	1650365

All Electric Logs Run

Sonic
Micro
Dual Induction
Compensated Density Neutron

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	CHARLENE C 1-17
Doc ID	1650365

Tops

Name	Top	Datum
Top Anhydrite	3058'	+300
Base Anhydrite	3096'	+262
Foraker	3736'	-378
Topeka	4018'	-600
Heebner	4183'	-825
LKC	4235'	-877
Stark	4433'	-1075
BKC	4489'	-1131
Marmaton	4498'	-1140
Pawnee	4610'	-1252
Cherokee Shale	4690'	-1332
Morrow	4849'	-1491
Mississippi	4900'	-1542

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	CHARLENE C 1-17
Doc ID	1650365

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	24	483	H-325	350	-
Production	7.875	5.5	14	4955	H-Long	200	-

HSI

CEMENT TREATMENT REPORT

Customer:	Downing Nelson	Well:	Charlene C 1-17	Ticket:	WP 2858
City, State:	Oakley KS	County:	Rawlins KS	Date:	5/25/2022
Field Rep:	Carlos	S-T-R:	17-5S-36W	Service:	Surface

Downhole Information		Calculated Slurry - Lead		Calculated Slurry - Tail	
Hole Size:	12.25 in	Blend:	H-325	Blend:	
Hole Depth:	485 ft	Weight:	13.8 ppg	Weight:	ppg
Casing Size:	8 5/8 in	Water / Sx:	6.9 gal / sx	Water / Sx:	gal / sx
Casing Depth:	475 ft	Yield:	1.41 ft^3 / sx	Yield:	ft^3 / sx
Tubing / Liner:	in	Annular Bbls / Ft.:	bbs / ft.	Annular Bbls / Ft.:	bbs / ft.
Depth:	ft	Depth:	ft	Depth:	ft
Tool / Packer:		Annular Volume:	0.0 bbls	Annular Volume:	0 bbls
Tool Depth:	ft	Excess:		Excess:	
Displacement:	29.0 bbls	Total Slurry:	87.8 bbls	Total Slurry:	0.0 bbls
		Total Sacks:	350 sx	Total Sacks:	0 sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
1:49 AM			-	-	Arrived on location
1:59 AM				-	Saftey meeting
2:09 AM				-	Rigged up
8:12 AM				-	Casing on bottom
8:18 AM				-	Circulated mud to pit
8:34 AM	3.6	200.0	5.0	5.0	Water ahead
8:35 AM	4.7	325.0	87.8	92.8	Mixed 350 sacks cement @ 14.8 ppg
8:59 AM	4.1	250.0	29.0	121.8	Begin displacment
9:06 AM		200.0		121.8	Plug down and shut in with 5 bbls cement circulated to pit
9:08 AM				121.8	Wash up and rigged down
9:29 AM				121.8	Left location

CREW		UNIT
Cementer:	John	64
Pump Operator:	Jose	208
Bulk #1:	Kale	527-235
Bulk #2:		

SUMMARY		
Average Rate	Average Pressure	Total Fluid
4.1 bpm	244 psi	122 bbls

CEMENT TREATMENT REPORT

Customer:	Downing Nelson Oil Co Inc	Well:	Charlene C # 1-17	Ticket:	wp2889
City, State:	Oakley KS	County:	Rawlins KS	Date:	6/2/2022
Field Rep:	Josh	S-T-R:	17-5-36W	Service:	Longstring

Downhole Information		Calculated Slurry - Lead		Calculated Slurry - Tail	
Hole Size:	7 7/8 in	Blend:	H-PLUG	Blend:	H- LONG
Hole Depth:	4955 ft	Weight:	13.8 ppg	Weight:	15 ppg
Casing Size:	5 1/2 in	Water / Sx:	6.9 gal / sx	Water / Sx:	6.2 gal / sx
Casing Depth:	4932 ft	Yield:	1.42 ft^3 / sx	Yield:	1.36 ft^3 / sx
Tubing / Liner:	in	Annular Bbls / Ft.:	0.0735 bbs / ft.	Annular Bbls / Ft.:	0.0735 bbs / ft.
Depth:	ft	Depth:	4932 ft	Depth:	4932 ft
Tool / Packer:		Annular Volume:	362.5 bbls	Annular Volume:	362.502 bbls
Tool Depth:	ft	Excess:		Excess:	
Displacement:	117.0 bbls	Total Slurry:	12.6 bbls	Total Slurry:	48.4 bbls
		Total Sacks:	50 sx	Total Sacks:	200 sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
800A			-	-	GOT TO LOCATION
805A				-	SAFETY MEETING
810A				-	RIGGED UP TRUCKS
1151A				-	CIRCULATED HOLE WITH RIG PUMP
110P	3.0	200.0	5.0	5.0	PUMPED H2O AHEAD
112P	3.0	200.0	12.0	17.0	PUMPED 500 GAL OF MUD FLUSH
115P	3.0	200.0	10.0	27.0	WASHED UP WITH H2O
118P	3.0	150.0	5.0	32.0	PUMPED 20 SKS OF HJ- PLUG IN MH
123P	3.0	150.0	7.5	39.5	PUMPED 30 SKS OF H- PLUG IN RH
128P		300.0	48.4	87.9	PUMPED 200 SKS OF H- LONG @ 4932 FT
143P				87.9	SHUT DOWN WASHED UP PUMP AND LINES / LOADED LD PLUG
155P		1,000.0	117.4		DISPLACED WITH H20
217P		1,500.0			PLUG DOWN
220P					TESTED PLUG / PLUG HELD
225P					WASHED UP PUMP TRUCK
235P					RIGGED DOWN TRUCKS
300P					OFF LOCATION

CREW		UNIT
Cementer:	Josh	73
Pump Operator:	John	208
Bulk #1:	Jose	180/530
Bulk #2:		

SUMMARY		
Average Rate	Average Pressure	Total Fluid
3.0 bpm	463 psi	205 bbls

DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Company Inc**

111 W.10th
Hays, KS 67601

ATTN: Marc Downing

Charlene C #1-17

17-5S-36W Rawlins,KS

Start Date: 2022.05.29 @ 05:36:00
End Date: 2022.05.29 @ 14:15:00
Job Ticket #: 68765 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.06.01 @ 13:48:09

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Company Inc

111 W.10th
Hays, KS 67601

ATTN: Marc Dow ning

17-5S-36W Rawlins,KS

Charlene C #1-17

Job Ticket: 68765 **DST#: 1**

Test Start: 2022.05.29 @ 05:36:00

GENERAL INFORMATION:

Formation: **LKC J**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 07:57:30
Time Test Ended: 14:15:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Nathan Aneas
Unit No: 71

Interval: 4386.00 ft (KB) To 4434.00 ft (KB) (TVD)
Total Depth: 4434.00 ft (KB) (TVD)
Hole Diameter: 7.87 inches Hole Condition: Fair

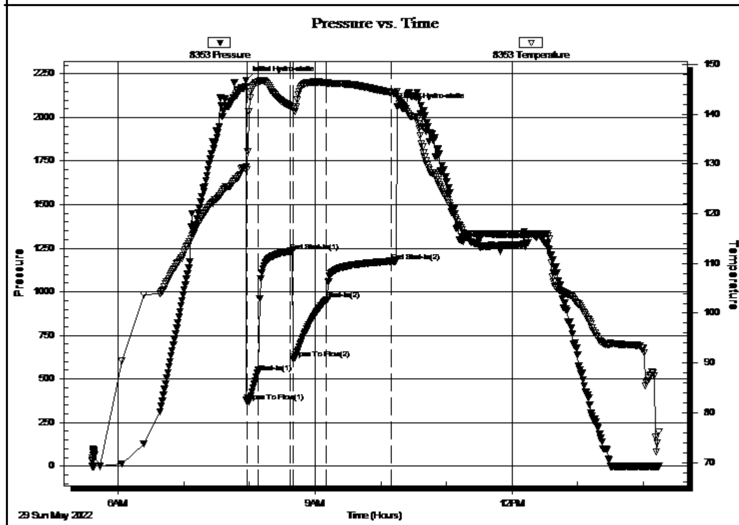
Reference Elevations: 3358.00 ft (KB)
3347.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8353 **Inside**

Press@RunDepth: 955.10 psig @ 4387.00 ft (KB)
Start Date: 2022.05.29 End Date: 2022.05.29
Start Time: 05:36:01 End Time: 14:15:00

Capacity: 8000.00 psig
Last Calib.: 2022.05.29
Time On Btm: 2022.05.29 @ 07:56:45
Time Off Btm: 2022.05.29 @ 10:15:15

TEST COMMENT: 10:IF- Strong surface blow , BOB in 30 seconds, final blow is 151 inches
30:ISI- Fair surface blow , BOB in 6 min, final blow is 54 inches
30:FF- Strong surface blow , BOB in 40 seconds, Gas to sufrace in 25 min, final blow is 272 inches
60:FSI- Fair surface blow ,BOB in 7 min, final blow is 14 inches



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2213.24	129.43	Initial Hydro-static
1	371.86	128.88	Open To Flow (1)
11	537.27	146.41	Shut-In(1)
41	1233.21	141.67	End Shut-In(1)
44	616.43	141.17	Open To Flow (2)
74	955.10	146.35	Shut-In(2)
134	1175.68	144.33	End Shut-In(2)
139	2059.22	144.61	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
235.00	SGOCM 80%M 18%O 2%G	1.16
2394.00	GO 80%O 20%G	33.58
31.00	CO 100%O	0.43

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

TOOL DIAGRAM

TRILOBITE TESTING, INC

Dow ning-Nelson Oil Company Inc

111 W.10th
Hays, KS 67601

ATTN: Marc Dow ning

17-5S-36W Rawlins,KS

Charlene C #1-17

Job Ticket: 68765 **DST#: 1**

Test Start: 2022.05.29 @ 05:36:00

Tool Information

Drill Pipe:	Length:	4139.00 ft	Diameter:	3.80 inches	Volume:	58.06 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	ft	Diameter:	inches	Volume:	- bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	235.00 ft	Diameter:	2.25 inches	Volume:	1.16 bbl	Weight to Pull Loose:	70000.00 lb
					Total Volume:	- bbl	Tool Chased	ft
Drill Pipe Above KB:		20.00 ft					String Weight: Initial	64000.00 lb
Depth to Top Packer:		4386.00 ft					Final	72000.00 lb
Depth to Bottom Packer:		ft						
Interval betw een Packers:		48.00 ft						
Tool Length:		80.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			4359.00		
Hydraulic tool	5.00			4364.00		
Jars	5.00			4369.00		
EM Tool	4.00			4373.00		
Safety Joint	3.00			4376.00		
Packer	5.00			4381.00	32.00	Bottom Of Top Packer
Packer	5.00			4386.00		
Stubb	1.00			4387.00		
Recorder	0.00	8353	Inside	4387.00		
Recorder	0.00	8676	Outside	4387.00		
Perforations	44.00			4431.00		
Bullnose	3.00			4434.00	48.00	Bottom Packers & Anchor

Total Tool Length: 80.00

DRILL STEM TEST REPORT

FLUID SUMMARY

TRILOBITE TESTING, INC.

Dow ning-Nelson Oil Company Inc

111 W.10th
Hays, KS 67601

ATTN: Marc Dow ning

17-5S-36W Rawlins,KS

Charlene C #1-17

Job Ticket: 68765 **DST#: 1**

Test Start: 2022.05.29 @ 05:36:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	39.6 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	60.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	9.58 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	800.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

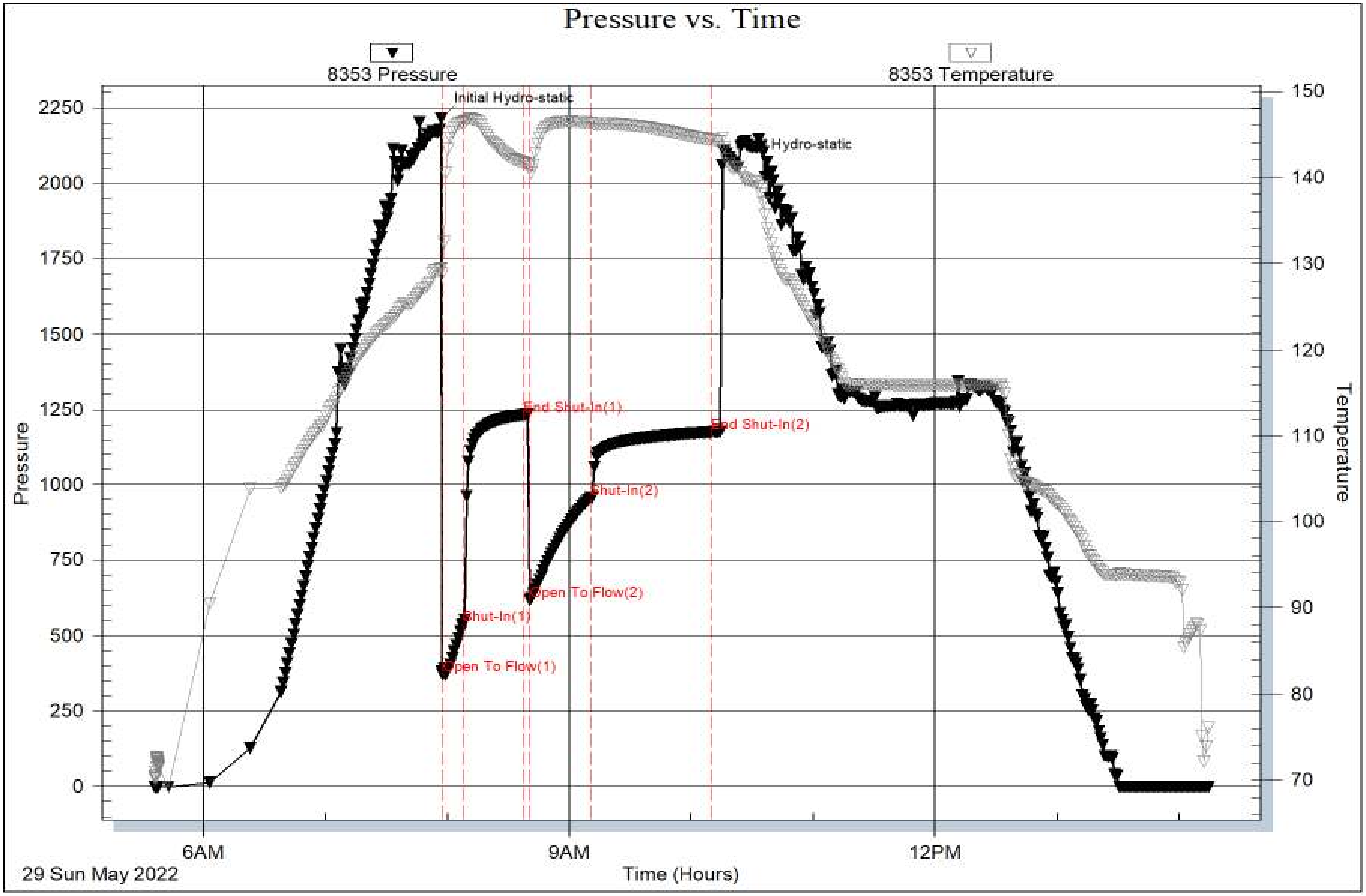
Length ft	Description	Volume bbl
235.00	SGOCM 80%M 18%O 2%G	1.156
2394.00	GO 80%O 20%G	33.582
31.00	CO 100%O	0.435

Total Length: 2660.00 ft Total Volume: 35.173 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: 41 Oil API@ 80 Degrees API Corrected to 39@60


Pressure vs. Time
8353 Pressure
8353 Temperature
Initial Hydro-static
Hydro-static
Open To Flow(1)
Shut-In(1)
End Shut-In(1)
Open To Flow(2)
Shut-In(2)
End Shut-In(2)
Pressure
Temperature
2250
2000
1750
1500
1250
1000
750
500
250
0
150
140
130
120
110
100
90
80
70
6AM
9AM
12PM
29 Sun May 2022
Time (Hours)

DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Company Inc**

111 W.10th
Hays, KS 67601

ATTN: Marc Downing

Charlene C #1-17

17-5S-36W Rawlins,KS

Start Date: 2022.05.30 @ 14:14:00
End Date: 2022.05.30 @ 23:27:30
Job Ticket #: 68766 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.06.01 @ 13:38:58

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC

Downing-Nelson Oil Company Inc

111 W.10th
Hays, KS 67601

ATTN: Marc Downing

17-5S-36W Rawlins,KS

Charlene C #1-17

Job Ticket: 68766 **DST#: 2**

Test Start: 2022.05.30 @ 14:14:00

GENERAL INFORMATION:

Formation: **Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:59:45
Time Test Ended: 23:27:30

Test Type: Conventional Bottom Hole (Reset)
Tester: Nathan Aneas
Unit No: 71

Interval: 4586.00 ft (KB) To 4630.00 ft (KB) (TVD)
Total Depth: 4630.00 ft (KB) (TVD)
Hole Diameter: 7.87 inches Hole Condition: Fair

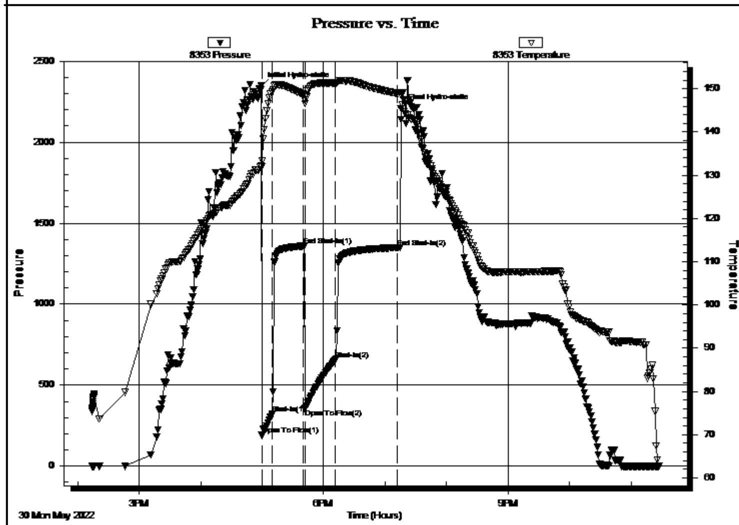
Reference Elevations: 3358.00 ft (KB)
3347.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8353 **Inside**

Press@RunDepth: 658.28 psig @ 4587.00 ft (KB)
Start Date: 2022.05.30 End Date: 2022.05.30
Start Time: 14:14:01 End Time: 23:27:30

Capacity: 8000.00 psig
Last Calib.: 2022.05.30
Time On Btm: 2022.05.30 @ 16:59:00
Time Off Btm: 2022.05.30 @ 19:15:15

TEST COMMENT: 10:IF- Strong surface blow , BOB in 1 min 10 seconds, final blow is 91 inches
30:ISI- Strong surface blow , BOB in 2 min 30 seconds, final blow is 62 inches
30:FF- Strong surface blow , BOB in 40 seconds, final blow is 145 inches
60:FSI- Fair surface blow , BOB in 7 min, final blow is 54 inches



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2346.36	132.22	Initial Hydro-static
1	193.48	133.31	Open To Flow (1)
11	322.29	149.36	Shut-In(1)
41	1358.81	148.70	End Shut-In(1)
43	352.41	147.41	Open To Flow (2)
73	658.28	151.36	Shut-In(2)
133	1349.31	148.95	End Shut-In(2)
137	2208.22	149.09	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
117.50	SGOCM 80%M 15%O 5%G	0.58
1661.50	VSMGO 70%O 25%G 5%M	22.24
31.00	CO 100%O	0.43

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

Trilobite Testing, Inc

Dow ning-Nelson Oil Company Inc

111 W.10th
Hays, KS 67601

ATTN: Marc Dow ning

17-5S-36W Rawlins,KS

Charlene C #1-17

Job Ticket: 68766 **DST#: 2**

Test Start: 2022.05.30 @ 14:14:00

GENERAL INFORMATION:

Formation: **Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:59:45
Time Test Ended: 23:27:30

Test Type: Conventional Bottom Hole (Reset)
Tester: Nathan Aneas
Unit No: 71

Interval: 4586.00 ft (KB) To 4630.00 ft (KB) (TVD)
Total Depth: 4630.00 ft (KB) (TVD)
Hole Diameter: 7.87 inches Hole Condition: Fair

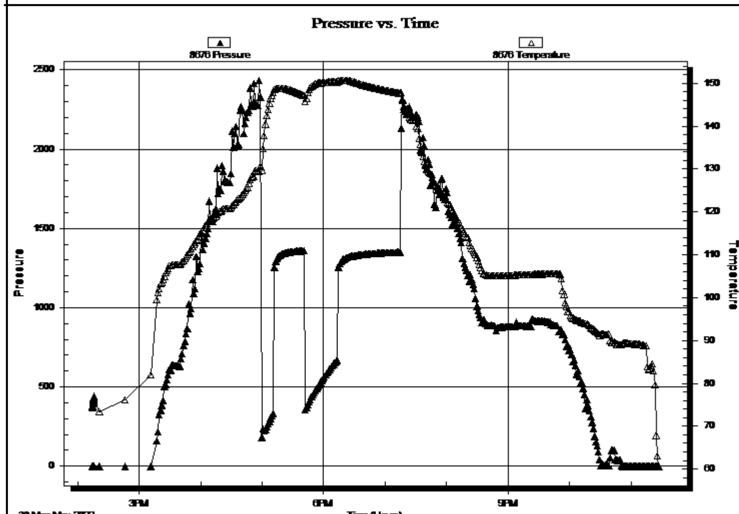
Reference Elevations: 3358.00 ft (KB)
3347.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8676 **Outside**

Press@RunDepth: psig @ 4587.00 ft (KB)
Start Date: 2022.05.30 End Date: 2022.05.30
Start Time: 14:14:01 End Time: 23:27:45

Capacity: 8000.00 psig
Last Calib.: 2022.05.30
Time On Btm:
Time Off Btm:

TEST COMMENT: 10:IF- Strong surface blow , BOB in 1 min 10 seconds, final blow is 91 inches
30:ISI- Strong surface blow , BOB in 2 min 30 seconds, final blow is 62 inches
30:FF- Strong surface blow , BOB in 40 seconds, final blow is 145 inches
60:FSI- Fair surface blow , BOB in 7 min, final blow is 54 inches



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
117.50	SGOCM 80%M 15%O 5%G	0.58
1661.50	VSMGO 70%O 25%G 5%M	22.24
31.00	CO 100%O	0.43

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

TRILOBITE TESTING, INC	DRILL STEM TEST REPORT — TOOL DIAGRAM

Downing-Nelson Oil Company Inc

111 W.10th
Hays, KS 67601

ATTN: Marc Downing

17-5S-36W Rawlins,KS

Charlene C #1-17

Job Ticket: 68766 **DST#: 2**

Test Start: 2022.05.30 @ 14:14:00

Tool Information

Drill Pipe:	Length:	4329.00 ft	Diameter:	3.80 inches	Volume:	60.72 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	ft	Diameter:	inches	Volume:	- bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length:	235.00 ft	Diameter:	2.25 inches	Volume:	1.16 bbl	Weight to Pull Loose:	70000.00 lb
					Total Volume:	- bbl	Tool Chased	ft
							String Weight: Initial	68000.00 lb
							Final	71000.00 lb

Drill Pipe Above KB:	10.00 ft
Depth to Top Packer:	4586.00 ft
Depth to Bottom Packer:	ft
Interval between Packers:	44.00 ft
Tool Length:	76.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			4559.00		
Hydraulic tool	5.00			4564.00		
Jars	5.00			4569.00		
EM Tool	4.00			4573.00		
Safety Joint	3.00			4576.00		
Packer	5.00			4581.00	32.00	Bottom Of Top Packer
Packer	5.00			4586.00		
Stubb	1.00			4587.00		
Recorder	0.00	8353	Inside	4587.00		
Recorder	0.00	8676	Outside	4587.00		
Perforations	40.00			4627.00		
Bullnose	3.00			4630.00	44.00	Bottom Packers & Anchor

Total Tool Length: 76.00

TRILOBITE TESTING, INC	# DRILL STEM TEST REPORT **FLUID SUMMARY**

Downing-Nelson Oil Company Inc 111 W.10th Hays, KS 67601 ATTN: Marc Downing	**17-5S-36W Rawlins,KS** **Charlene C #1-17** Job Ticket: 68766 **DST#: 2** Test Start: 2022.05.30 @ 14:14:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	33.6 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	49.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	900.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

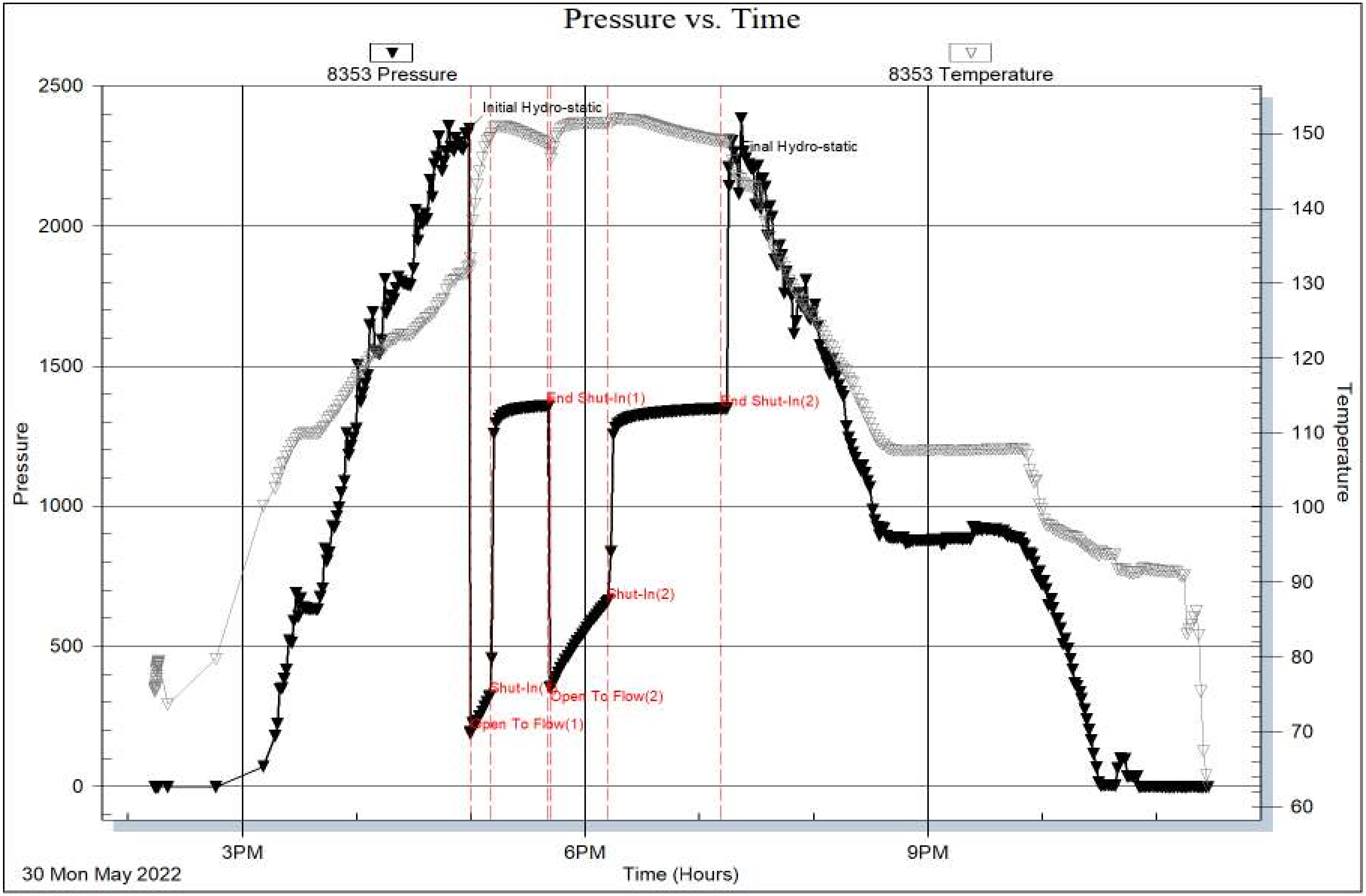
Length ft	Description	Volume bbl
117.50	SGOCM 80%M 15%O 5%G	0.578
1661.50	VSMGO 70%O 25%G 5%M	22.236
31.00	CO 100%O	0.435

Total Length: 1810.00 ft Total Volume: 23.249 bbl

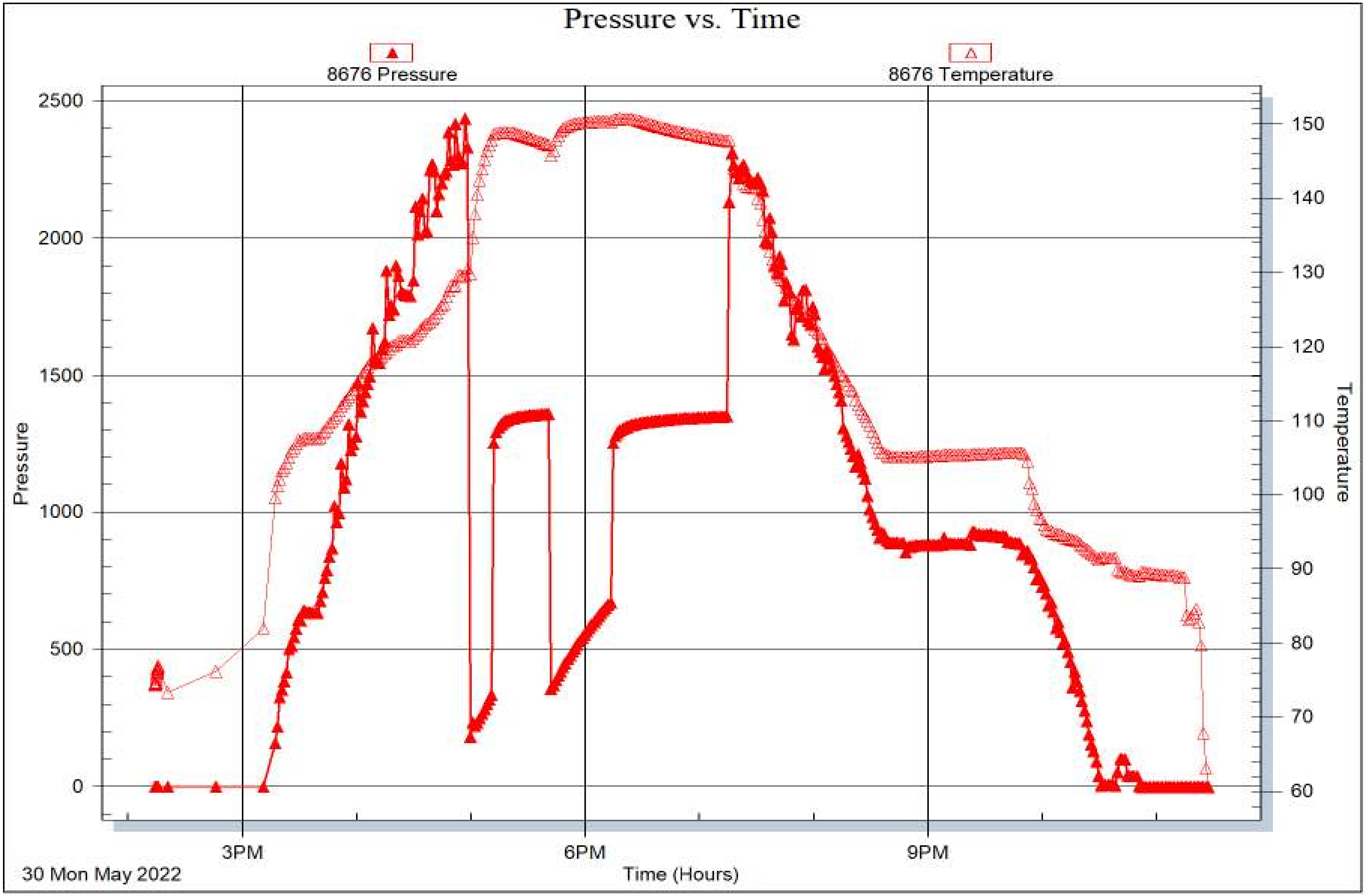
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:


Pressure vs. Time
8353 Pressure
8353 Temperature
Pressure
Temperature
2500
2000
1500
1000
500
0
150
140
130
120
110
100
90
80
70
60
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(2)
Open To Flow(2)
Open To Flow(1)
3PM
6PM
9PM
30 Mon May 2022
Time (Hours)

Serial #: 8676 **Outside** Dow ning-Nelson Oil Company Inc Charlene C#1-17 DST Test Number: 2



DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Company Inc**

111 W.10th
Hays, KS 67601

ATTN: Marc Downing

Charlene C #1-17

17-5S-36W Rawlins,KS

Start Date: 2022.05.31 @ 12:30:00
End Date: 2022.05.31 @ 21:05:15
Job Ticket #: 68767 DST #: 3

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2022.06.01 @ 13:38:29

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Company Inc

111 W.10th
Hays, KS 67601

ATTN: Marc Dow ning

17-5S-36W Rawlins,KS

Charlene C #1-17

Job Ticket: 68767 **DST#: 3**

Test Start: 2022.05.31 @ 12:30:00

GENERAL INFORMATION:

Formation: **Cherokee Lime**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:05:30
Time Test Ended: 21:05:15

Test Type: Conventional Bottom Hole (Reset)
Tester: Nathan Aneas
Unit No: 71

Interval: 4688.00 ft (KB) To 4714.00 ft (KB) (TVD)
Total Depth: 4714.00 ft (KB) (TVD)
Hole Diameter: 7.87 inches Hole Condition: Fair

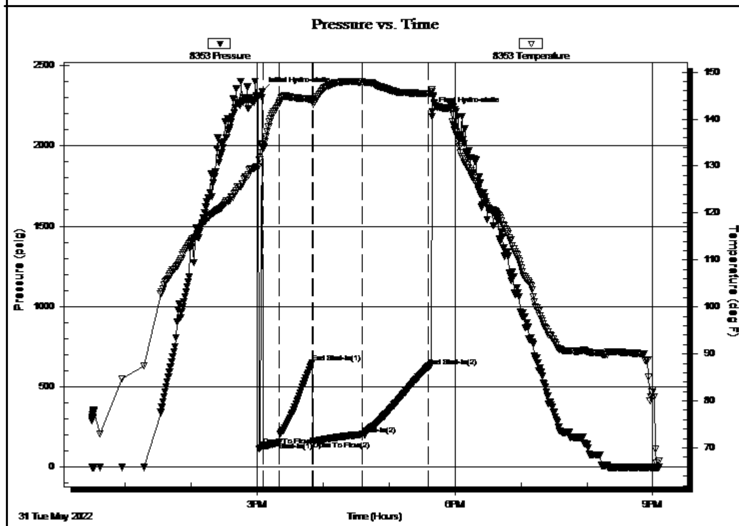
Reference Elevations: 3358.00 ft (KB)
3347.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8353 **Inside**

Press@RunDepth: 203.57 psig @ 4689.00 ft (KB)
Start Date: 2022.05.31 End Date: 2022.05.31
Start Time: 12:30:01 End Time: 21:05:15

Capacity: 8000.00 psig
Last Calib.: 2022.05.31
Time On Btm: 2022.05.31 @ 15:04:45
Time Off Btm: 2022.05.31 @ 17:39:30

TEST COMMENT: 15:IF- Fair surface blow , built to 4 1/2 inches in 5 min, BOB in 12 min, final blow is 13 inches
30:ISI- Weak surface blow , built to 1 inch in 6 min, final blow is 2 3/4 inch
45:FF- Weak surface blow , built to 1 1/2 inch in 5 min, BOB in 18 min, final blow is 19 3/4 inches
60:FSI- Weak surface blow , built to 3/4 inch in 5 min, final blow is 2 inches



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2334.72	134.71	Initial Hydro-static
1	132.04	133.68	Open To Flow (1)
16	154.90	143.39	Shut-In(1)
46	647.79	144.18	End Shut-In(1)
46	164.99	143.72	Open To Flow (2)
91	203.57	147.86	Shut-In(2)
151	623.56	145.42	End Shut-In(2)
155	2211.13	145.89	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
235.00	SGOCM 75%M 20%O 5%G	1.16
252.00	SMGO 60%O 25%G 15%M	3.53

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Company Inc

111 W.10th
Hays, KS 67601

ATTN: Marc Dow ning

17-5S-36W Rawlins,KS

Charlene C #1-17

Job Ticket: 68767 **DST#: 3**

Test Start: 2022.05.31 @ 12:30:00

GENERAL INFORMATION:

Formation: **Cherokee Lime**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:05:30
Time Test Ended: 21:05:15

Test Type: Conventional Bottom Hole (Reset)
Tester: Nathan Aneas
Unit No: 71

Interval: 4688.00 ft (KB) To 4714.00 ft (KB) (TVD)
Total Depth: 4714.00 ft (KB) (TVD)
Hole Diameter: 7.87 inches Hole Condition: Fair

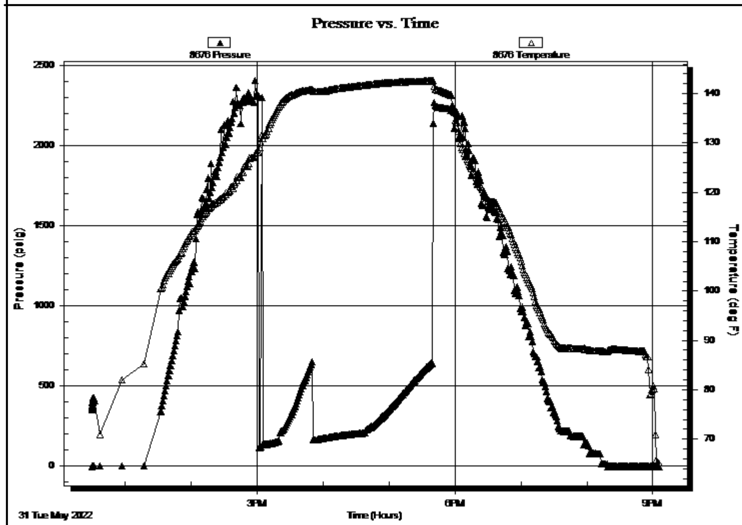
Reference Elevations: 3358.00 ft (KB)
3347.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8676 **Outside**

Press@RunDepth: psig @ 4689.00 ft (KB)
Start Date: 2022.05.31 End Date: 2022.05.31
Start Time: 12:30:01 End Time: 21:05:30

Capacity: 8000.00 psig
Last Calib.: 2022.05.31
Time On Btm:
Time Off Btm:

TEST COMMENT: 15:IF- Fair surface blow , built to 4 1/2 inches in 5 min, BOB in 12 min, final blow is 13 inches
30:ISI- Weak surface blow , built to 1 inch in 6 min, final blow is 2 3/4 inch
45:FF- Weak surface blow , built to 1 1/2 inch in 5 min, BOB in 18 min, final blow is 19 3/4 inches
60:FSI- Weak surface blow , built to 3/4 inch in 5 min, final blow is 2 inches



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
235.00	SGOCM 75%M 20%O 5%G	1.16
252.00	SMGO 60%O 25%G 15%M	3.53

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Company Inc

111 W.10th
Hays, KS 67601

ATTN: Marc Dow ning

17-5S-36W Rawlins,KS

Charlene C #1-17

Job Ticket: 68767 **DST#: 3**

Test Start: 2022.05.31 @ 12:30:00

Tool Information

Drill Pipe:	Length:	4454.00 ft	Diameter:	3.80 inches	Volume:	62.48 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	ft	Diameter:	inches	Volume:	- bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length:	235.00 ft	Diameter:	2.25 inches	Volume:	1.16 bbl	Weight to Pull Loose:	72000.00 lb
					Total Volume:	- bbl	Tool Chased	ft
Drill Pipe Above KB:		33.00 ft					String Weight: Initial	68000.00 lb
Depth to Top Packer:		4688.00 ft					Final	70000.00 lb
Depth to Bottom Packer:		ft						
Interval betw een Packers:		26.00 ft						
Tool Length:		58.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			4661.00		
Hydraulic tool	5.00			4666.00		
Jars	5.00			4671.00		
EM Tool	4.00			4675.00		
Safety Joint	3.00			4678.00		
Packer	5.00			4683.00	32.00	Bottom Of Top Packer
Packer	5.00			4688.00		
Stubb	1.00			4689.00		
Recorder	0.00	8353	Inside	4689.00		
Recorder	0.00	8676	Outside	4689.00		
Perforations	22.00			4711.00		
Bullnose	3.00			4714.00	26.00	Bottom Packers & Anchor

Total Tool Length: 58.00

DRILL STEM TEST REPORT

FLUID SUMMARY

Trilobite Testing, Inc

Dow ning-Nelson Oil Company Inc

111 W.10th
Hays, KS 67601

ATTN: Marc Dow ning

17-5S-36W Rawlins,KS

Charlene C #1-17

Job Ticket: 68767 **DST#: 3**

Test Start: 2022.05.31 @ 12:30:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	26.6 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	61.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.79 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	800.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
235.00	SGOCM 75%M 20%O 5%G	1.156
252.00	SMGO 60%O 25%G 15%M	3.535

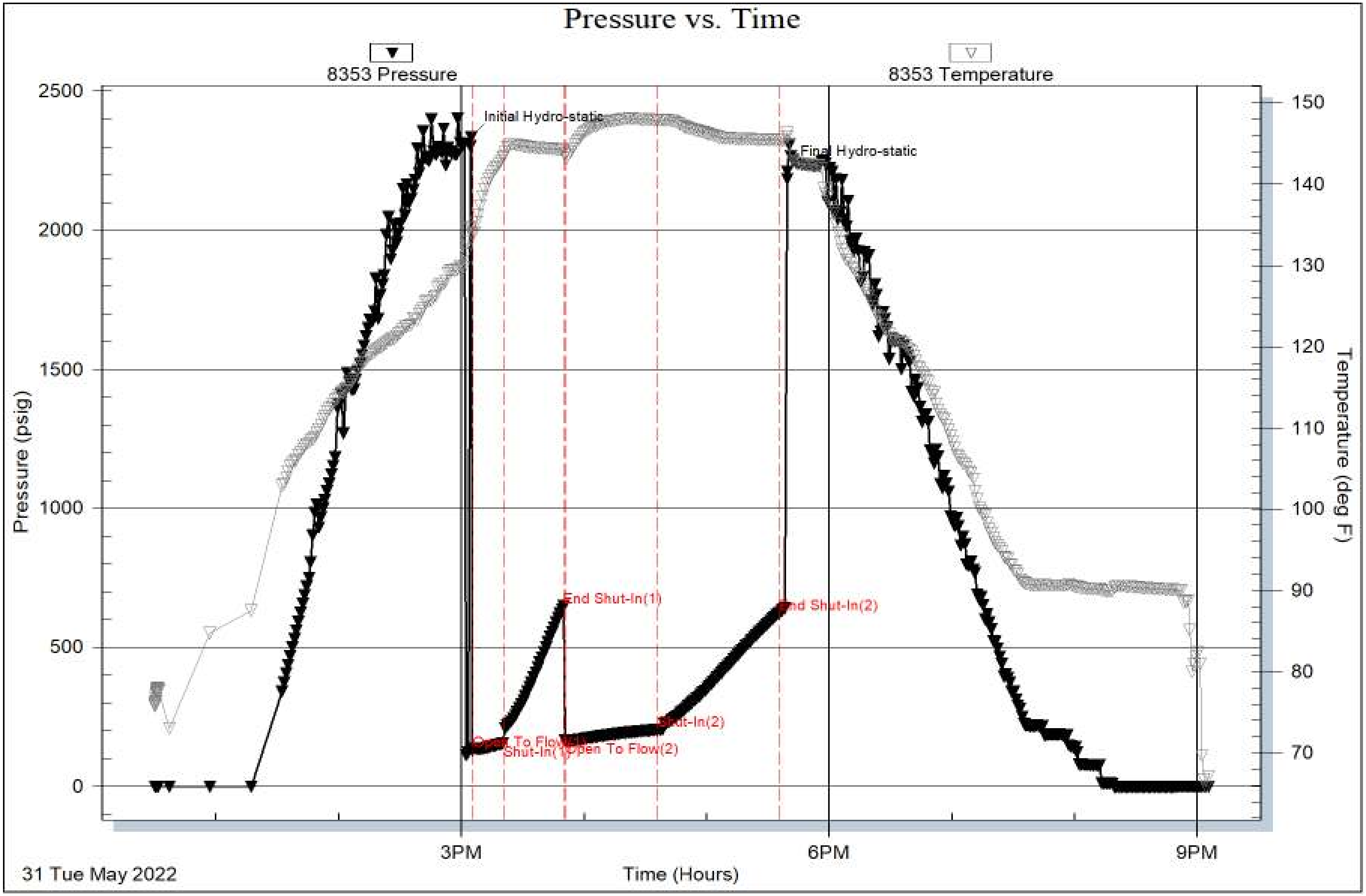
Total Length: 487.00 ft Total Volume: 4.691 bbl

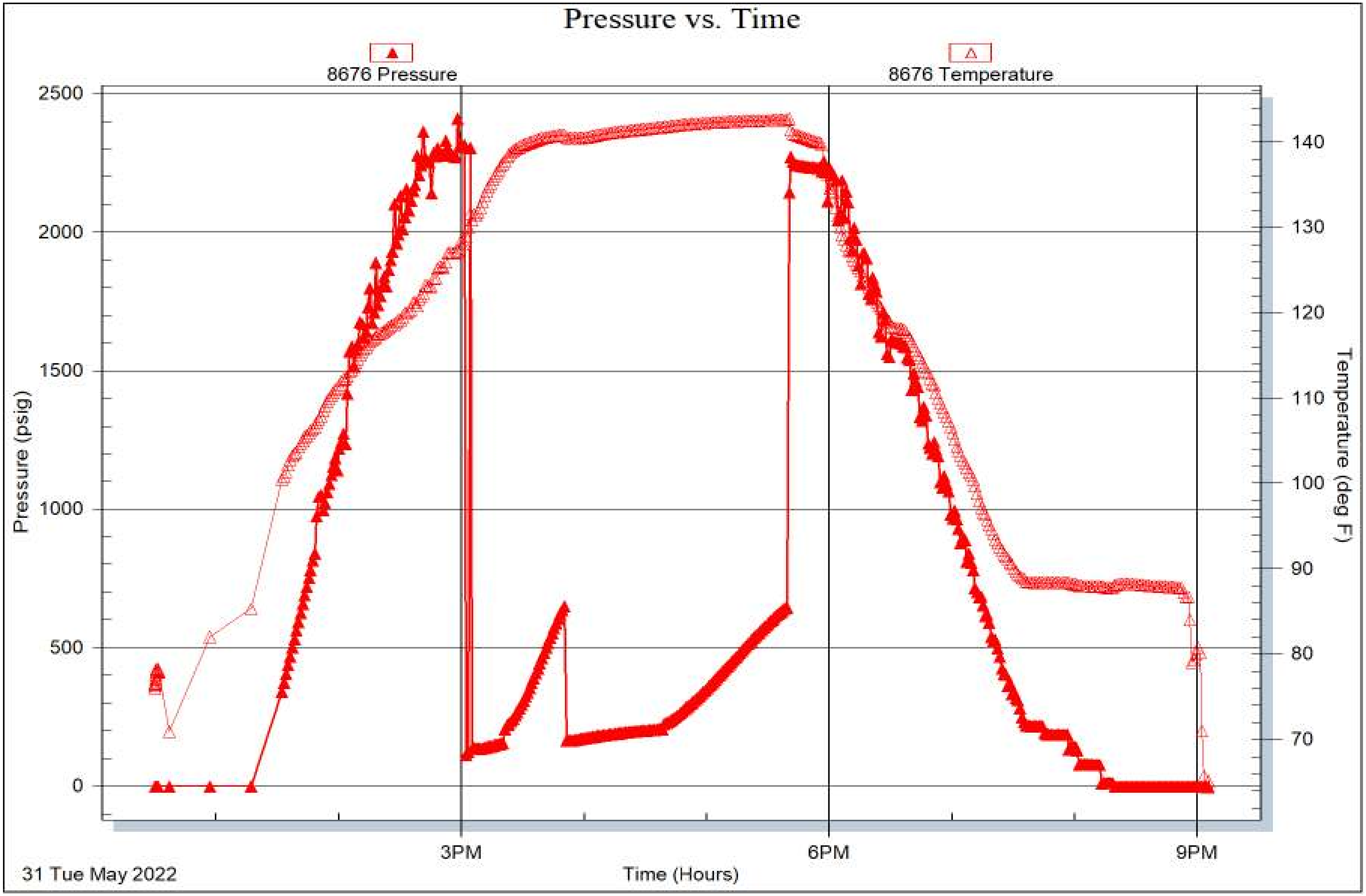
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 8353 **Inside** Downing-Nelson Oil Company Inc Charlene C#1-17 DST Test Number: 3




Pressure vs. Time
8676 Pressure
8676 Temperature
2500
2000
1500
1000
500
0
Pressure (psig)
140
130
120
110
100
90
80
70
Temperature (deg F)
3PM
6PM
9PM
31 Tue May 2022
Time (Hours)

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 68765

Well Name & No. Charlene C #1-17 Test No. 1 Date 5/29/22

Company Downing-Nelson Oil Company Inc Elevation 3358 KB 3347 GL

Address 111 W. 10th Hay, KS 67601

Co. Rep / Geo. Marc Downing Rig Duke #5

Location: Sec. 17 Twp 5s Rge. 36W Co. Rawlins State KS

Interval Tested 4386-4434 Zone Tested LKC-J

Anchor Length 48 Drill Pipe Run 4139 Mud Wt. 9.4

Top Packer Depth 4381 Drill Collars Run 235 Vis 60

Bottom Packer Depth 4386 Wt. Pipe Run WL 9.6

Total Depth 4434 Chlorides 800 ppm System LCM 3#

Blow Description IF-Strong Surface blow, BOB in 30 seconds, Final blow is [redacted] 151 in

ISI-Fair Surface blow, BOB in 6 min, Final blow is 54 inches

FF-Strong Surface blow, BOB in 40 seconds, Gas to surface in 25 min, Final blow is 272

FSI-Fair Surface blow, BOB in 7 min, Final blow is 14 inches

Rec	Feet of	%gas	%oil	%water	%mud
31	CO (GTS) Non-Gaugeable		100		
2394	Reversed out 5 min GO - 10 min	40	60		
	15-25 min SGO	20	80		
[redacted]235	SGOCM	2	18		80
[redacted]					

Rec Total 2660 BHT 144 Gravity 39@60 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic	2213	☑ Test	1950	T-On Location	03:50
(B) First Initial Flow	372	☑ Jars	300	T-Started	05:36
(C) First Final Flow	537	☑ Safety Joint		T-Open	07:57
(D) Initial Shut-In	1233	☑ Circ Sub	Bar Drop 50	T-Pulled	10:15
(E) Second Initial Flow	616	☐ Hourly Standby		T-Out	14:15
(F) Second Final Flow	955	☑ Mileage	116 RT 174	Comments	
(G) Final Shut-In	1176	☐ Sampler			
(H) Final Hydrostatic	2059	☐ Straddle		☑ EM Tool	-350
		☐ Shale Packer		☐ Ruined Shale Packer	
Initial Open	10	☐ Extra Packer		☐ Ruined Packer	
Initial Shut-In	30	☐ Extra Recorder		☐ Extra Copies	
Final Flow	30	☐ Day Standby		Sub Total	-350
Final Shut-In	60	☐ Accessibility		Total	2124
		Sub Total	2474	MP/DST Disc't	

Approved By ____ Our Representative ____

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 68766

Well Name & No. Charlene C #1-17 Test No. 2 Date 5/30/22

Company Downing-Nelson Oil Company Inc Elevation 3358 KB 3347 GL

Address 111 W. 10th Hays, KS 67601

Co. Rep / Geo. Marc Downing Rig Duke #5

Location: Sec. 17 Twp 5s Rge. 36w Co. Rawlins State KS

Interval Tested 4586-4630 Zone Tested Pawnee

Anchor Length 44 Drill Pipe Run 4329 Mud Wt. 9.4

Top Packer Depth 4581 Drill Collars Run 235 Vis 49

Bottom Packer Depth 4586 Wt. Pipe Run WL 8

Total Depth 4630 Chlorides 900 ppm System LCM 4#

Blow Description IF- Strong Surface blow, BOB in 1min 10second. Final blow is 91inches
ISI- Strong Surface blow, BOB in 2min 30seconds, Final blow is 62inches
FF- Strong Surface blow, BOB in 40 seconds; Final blow is 145inches
FSI- Fair surface blow, BOB in 7min, Final blow is 54inches

Rec	Feet of	%gas	%oil	%water	%mud
31	CO		100		
1661.5	Reversed Out 5-10min GO	30	70		
	15-30min VSMGO	20	75		5
117.5	SGOCM	5	15		80

Rec Total 1810 BHT 149 Gravity 33@60 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2346	☑ Test 1950	T-On Location 13:25	
(B) First Initial Flow 193	☑ Jars 300	T-Started 14:14	
(C) First Final Flow 322	☑ Safety Joint	T-Open 16:59	
(D) Initial Shut-In 1359	☑ Circ Sub Bar Drop 50	T-Pulled 19:12	
(E) Second Initial Flow 352	☐ Hourly Standby	T-Out 23:22	
(F) Second Final Flow 658	☑ Mileage 116 RT 174	Comments	
(G) Final Shut-In 1349	☐ Sampler		
(H) Final Hydrostatic 2208	☐ Straddle	☑ EM Tool -350	
	☐ Shale Packer	☐ Ruined Shale Packer	
Initial Open 10	☐ Extra Packer	☐ Ruined Packer	
Initial Shut-In 30	☐ Extra Recorder	☐ Extra Copies	
Final Flow 30	☐ Day Standby	Sub Total -350	
Final Shut-In 60	☐ Accessibility	Total 2074	
	Sub Total 2424	MP/DST Disc't	

Approved By ______ Our Representative [signature]

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 68767

Well Name & No. Charlene C #1-17 Test No. 3 Date 5/31/22

Company Downing-Nelson Oil Company Inc Elevation 3358 KB 3347 GL

Address 111 W. 10th Hays, KS 67601

Co. Rep / Geo. Marc Downing Rig Duke #5

Location: Sec. 17 Twp 5s Rge. 36W Co. Rawlins State KS

Interval Tested 4688'-4714' Zone Tested Cherokee Lime

Anchor Length 26' Drill Pipe Run 4454 Mud Wt. 9.2

Top Packer Depth 4683 Drill Collars Run 235 Vis 61

Bottom Packer Depth 4688 Wt. Pipe Run WL 7.8

Total Depth 4714 Chlorides 800 ppm System LCM 4#

Blow Description IF- Fair Surface blow, built to 4½ inches in 5min, BOB in 12min, Final 13in
ISI- Weak surface blow, built to 1inch in 6min, Final blow is 2 3/4 inch
FF- Weak surface blow, built to 1½ inches in 5min, BOB in 18min, Final 19 3/4
FSI- Weak surface blow, built to 3/4 inch in 5min, Final blow is 2 inches

Rec	Feet of	%gas	%oil	%water	%mud
252	SMGO	25	60		15
235	SGOCM	5	20		75

Rec Total 487 BHT 145 Gravity 26@60 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic	2335	☑ Test	1950	T-On Location	11:45
(B) First Initial Flow	132	☑ Jars	300	T-Started	12:30
(C) First Final Flow	155	☑ Safety Joint		T-Open	15:05
(D) Initial Shut-In	648	☑ Circ Sub		T-Pulled	17:35
(E) Second Initial Flow	165	☐ Hourly Standby		T-Out	20:50
(F) Second Final Flow	204	☑ Mileage 116 RT	174	Comments	
(G) Final Shut-In	624	☐ Sampler			
(H) Final Hydrostatic	2211	☐ Straddle		☑ EM Tool	-350
		☐ Shale Packer		☐ Ruined Shale Packer	
Initial Open	15	☐ Extra Packer		☐ Ruined Packer	
Initial Shut-In	30	☐ Extra Recorder		☐ Extra Copies	
Final Flow	45	☐ Day Standby		Sub Total	-350
Final Shut-In	60	☐ Accessibility		Total	2074
		Sub Total	2424	MP/DST Disc't	

Approved By ______ Our Representative [signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

Marc A. Downing Consulting Petroleum Geologist	Geologic Report Drilling Time and Sample Log

Operator **Downing-Nelson Oil Co., Inc.**		**Elevation** KB 3358 DF 3356 GL 3347
Lease **Charlene C**	No. **1-17**	
API # **15-153-21290-0000**		**Casing Record** Surface 8 5/8" @ Production 5 1/2" @
Field **Charlene**		
Location **2129' FNL & 908' FWL**		
Sec. **17** Twp. **5s**	Rge. **36w**	**Electrical Surveys** CNDL, DIL MEL, Sonic
County **Rawlins**	State **Kansas**	

Formation	Sample tops	Log Tops	Datum	Struct Comp
Top Anhydrite	3062	3058	+300	+2
Base Anhydrite	3101	3096	+262	FL
Foraker	3741	3736	-378	+1
Topeka	4020	4018	-660	-3
Heebner	4184	4183	-825	-2
LKC	4238	4235	-877	+1
Stark	4434	4433	-1075	-5
BKC	4491	4489	-1131	-2
Marmaton	4501	4498	-1140	-3
Pawnee	4610	4610	-1252	-3
Cherokee Sh	4694	4690	-1332	-2
Morrow	4850	4849	-1491	-13
Mississippi	4906	4900	-1542	-23
Total Depth	4955	4954	-1596	

Reference Well For Structural Comparison **DNOCI - Charlene #1-17**
2266' FSL & 835' FWL Sec. 17-5s-36w

Drilling Contractor		**Duke Drilling, Rig #5**		
Commenced	**5-24-22**	Completed		**6-1-22**
Samples Saved From		**4100**	To	**RTD**
Drilling Time Kept From		**3600**	To	**RTD**
Samples Examined From		**4100**	To	**RTD**
Geological Supervision From		**4100**	To	**RTD**

Summary and Recommendations

Due to structural position, DST recovery, and log evaluation, it was decided to set 5 1/2" production casing for completion.

Note: Altamont C was not tested but calculates on log.

Perforate LKC D, F, and G before abandonment.

Respectfully Submitted,

Marc A. Downing